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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,848	06/24/2003	Yoshinori Tanaka	1324.68109	9315

7590

10/03/2005

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EXAMINER

PARKER, KENNETH

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/602,848	Applicant(s) TANAKA ET AL.	
	Examiner Kenneth A. Parker	Art Unit 2871	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not show in any figure with the claimed structure having the top and under layer superimposed. Figure 14a and 14c, seems to be the closest, showing the top bottom layer structure, however the layers are not connected via the hole- they are connected inside the hole as the connecting layer is shown in the hole contacting both layers, not contacting one, leaving the hole, and contacting the other elsewhere.

Claim 17 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP

§ 2172.01. The omitted structural cooperative relationships are: any structural relationship between the electrostatic protection portion and the rest of the device.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shimada 5691787.

Shimada shows regarding claim 13 an active matrix type liquid crystal display with:

a switching elements 102 formed for each of a plurality of pixels defined by a plurality of bus lines 3;

and an electrostatic protection element portion (106a and that around it) formed between the adjacent bus lines

wherein the electrostatic protection element portion comprises a plurality of metal layers (each neighboring terminal pad 107) directly formed on the same layer (substrate 112- see fig 6b), an insulating layer 112 formed on the plurality of metal layers,

a contact hole formed by opening the insulating layer on the plurality of metal

layers (see region above each 11a),
and a connecting layer electrically connecting the metal layers via the contact hole (the gate terminals 11a are connected view 106a).

Claims 14 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ukai et al 5068748.

Ukai discloses relative to claim 14 an active matrix type liquid crystal display comprising:

a switching element formed for each of a plurality of pixels 15 defined by a plurality of data bus lines 18 and gate bus lines 19;
and an electrostatic protection element portion (32 and that around it) formed between the adjacent bus lines
wherein the electrostatic protection element portion comprises a plurality of metal layers (the length of bus line below them) directly formed on the same layer (substrate 11- see fig 11c), an insulating layer 22 formed on the plurality of metal layers, a contact hole formed by opening the insulating layer on the plurality of metal layers (see region that 52 extends through in figure 11a),
and a connecting layer electrically connecting the metal layers via the contact hole (the gate portions are connected via portions 52 to 32 as shown in figure 11a and 11c).

Claims 13 and 15 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nakagawa et al 5650834.

Nakagawa discloses regarding claims 13 and 15 an active matrix type liquid crystal display comprising:

a switching element 15 formed for each of a plurality of pixels defined by a plurality of data bus lines 4 and gate bus lines 5 (see figure 1);

a first common wiring connected to the data bus lines (the top and bottom portions of 7;

a second common wiring connected to the gate bus lines (the right and left side of 7 as shown in figure 1); and

an electrostatic protection element portion formed between the first common wiring and the second common wiring (all the upper left devices are physically but not electrically between the upper and left common wirings, as they are in the inner portion of the "L", and therefore a line can be drawn from one wiring to the other though the electrostatic protection element portions).;

wherein the electrostatic protection element portion comprises a plurality of metal layers 4a for each wiring directly formed on the same layer as the first common wiring or the second common wiring (shown in figure 7b as 7), an insulating layer 41 formed on the plurality of metal layers, a contact hole (where 64 is) formed by opening the insulating layer on the plurality of metal layers, and a connecting layer 64. For claim 13, the ground ring 7 is on the same layer (the substrate) as 4a, and connected via 64.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada 5691787 as applied to claims above and further in view of Shiraki 5926234.

As discussed above, Shimada discloses an active matrix type liquid crystal display comprising a switching element formed for each of a plurality of pixels decided by a plurality of bus lines, but Shimada lacks a short ring 180 connected to the plurality of bus lines and an electrostatic protection element portion as claimed formed between each of the plurality of bus lines and the short ring (Shimada discloses the element between the signal lines). The layers are all formed on the same layer, in that they are all on the substrate. Shiraki discloses a modification of the type device of Satou (Shiraki figure 9), by adding a ground ring (first and second common lines) and the terminals in addition to the elements between the terminals (figure 10, described in column 14, lines 10-28, indicating that the embodiment with the extra protective devices

has the transistors "more surely protected". Therefore one of ordinary skill would have found motivation, reason and suggestion to modify the device of Shimada to employ the ground ring with protective elements between the ground ring (the first and second common lines) as well as between each signal line, so the transistors will be more surely protected. As the elements of Shimada have the structure where there is a conductor connecting two layers below it through a contact hole in an insulator, the limitations of the dependent claim are then met by the combination. A note on the interpretation of "electrostatic protection element", the language is assumed to apply to any portion of the peripheral electrostatic routing electrodes, not just to the physical switching device or blow out device itself. This appears consistent with applicants use, in which the claimed structure appears to be routing the electricity between the switching elements (fig 14 a and c).

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Please note that still at this point the claims really just have the electrostatic portions having electrodes (layers) connected through an insulator- something that exists in almost every device. To distinguish over references, it really will be necessary to incorporate how the electrostatic elements are connected and function with at least some level of detail.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

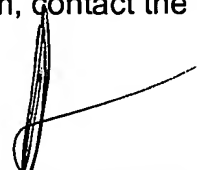
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5668032.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 571-272-2298. The examiner can normally be reached on M-F 10:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth A Parker
Primary Examiner
Art Unit 2871